

U.S. Patent Application No. 09/828,275
Amendment dated September 12, 2003
Reply to Office Action of March 12, 2003

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (cancelled).

Claim 2 (currently amended): The method of claim 32 ~~conductive-polymer composition of claim 1~~, wherein the carbon black has an STSA of from about 20 to about 100 m²/g, an I₂No of from about 20 to about 100 m²/g, a DBPA of from about 50 to about 300 cc/100g, and a CDBP of from about 45 to about 250 cc/100g.

Claim 3 (currently amended): The method of claim 32 ~~conductive-polymer composition of claim 1~~, wherein the carbon black has an STSA of from about 20 to about 70 m²/g, an I₂No of from about 20 to about 75 m²/g, a DBPA of from about 100 to about 250 cc/100g, and a CDBP of from about 60 to about 175 cc/100g.

Claim 4 (currently amended): The method of claim 32 ~~conductive-polymer composition of claim 1~~, wherein the carbon black is present in an amount from about 15 to about 30% by weight of the polymer composition.

Claim 5 (currently amended): The method of claim 32 ~~conductive-polymer composition of claim 1~~, wherein the carbon black is present in an amount of from about 25 to about 40% by weight of the polymer composition.

Claim 6 (currently amended): The method of claim 32 ~~conductive-polymer composition of claim 1~~, wherein the conductive polymer composition has a volume resistivity of greater than about 1000 ohm-cm at room temperature.

Claim 7 (cancelled).

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Claim 8 (currently amended): The method of claim 33 ~~conductive polymer composition of claim 7~~, wherein the carbon black has an STSA of from about 20 to about 100 m²/g, an I₂No of from about 20 to about 100 m²/g, a DBPA of from about 50 to about 300 cc/100g, and a CDBP of from about 45 to about 250 cc/100g.

Claim 9 (currently amended): The method of claim 33 ~~conductive polymer composition of claim 7~~, wherein the carbon black has an STSA of from about 20 to about 70 m²/g, an I₂No of from about 20 to about 75 m²/g, a DBPA of from about 100 to about 250 cc/100g, and a CDBP of from about 60 to about 175 cc/100g.

Claim 10 (currently amended): The method of claim 33 ~~conductive polymer composition of claim 7~~, wherein the conductive polymer composition has a volume resistivity of greater than about 100 ohm-cm at room temperature.

Claim 11 (currently amended): The method of claim 33 ~~conductive polymer composition of claim 7~~, wherein the conductive polymer composition has a volume resistivity of greater than about 1000 ohm-cm at room temperature.

Claim 12 (currently amended): The method of claim 33 ~~conductive polymer composition of claim 7~~, wherein said carbon black having an STSA of from about 46 to about 56 m²/g, an I₂No of from about 60 to about 70 mg/g, a tinting strength of about 70% or less, a DBPA of from about 137 to about 147 cc/100g, a CDBP of from about 85 to about 95 cc/100g, a ratio of I₂No to STSA of from about 1.2 to about 1.4, a mean particle size of from about 37 to about 47 nm, and a %volatiles of less than about 1.0%, wherein the carbon black is present in an amount of from about 25 to about 40% by weight of the polymer composition.

Claim 13 (currently amended): The method of claim 33 ~~conductive polymer~~

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~~composition of claim 7, wherein~~ said carbon black having an STSA of from about 32 to about 42 m²/g, an I₂No of from about 39 to about 49 mg/g, a tinting strength of about 60% or less, a DBPA of from about 112 to about 122 cc/100g, a CDBP of from about 71 to about 81 cc/100g, a ratio of I₂No to STSA of from about 1.1 to about 1.3, a mean particle size of from about 48 to about 58 nm, and a %volatiles of less than about 1.0%, wherein the carbon black is present in an amount of from about 25 to about 40% by weight of the polymer composition.

Claim 14 (currently amended): The method of claim 33 ~~conductive polymer composition of claim 7, wherein~~ said carbon black having an STSA of from about 55 to about 65 m²/g, an I₂No of from about 63 to about 73 mg/g, a tinting strength of about 90% or less, a DBPA of from about 121 to about 131 cc/100g, a CDBP of from about 85 to about 95 cc/100g, a ratio of I₂No to STSA of from about 1.05 to about 1.25, a mean particle size of from about 26 to about 36 nm, and a %volatiles of less than about 1.0%, wherein the carbon black is present in an amount of from about 25 to about 40% by weight of the polymer composition.

Claim 15 (currently amended): The method of claim 33 ~~conductive polymer composition of claim 7, wherein~~ said carbon black having an STSA of from about 64 to about 74 m²/g, an I₂No of from about 72 to about 82 mg/g, a tinting strength of about 90% or less, a DBPA of from about 188 to about 198 cc/100g, a CDBP of from about 101 to about 111 cc/100g, a ratio of I₂No to STSA of from about 1.05 to about 1.25, a mean particle size of from about 34 to about 44 nm, and a %volatiles of less than about 1.0%, wherein the carbon black is present in an amount from about 25 to about 40% by weight of the polymer composition.

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Claim 16 (currently amended): The method of claim 32 ~~conductive polymer composition of claim 1~~, wherein the carbon black is a modified carbon black comprising the carbon black having attached at least one organic group.

Claim 17 (currently amended): The method of claim 32 ~~conductive polymer composition of claim 1~~, wherein the carbon black is treated with a binder resin.

Claim 18 (currently amended): The method of claim 32 ~~conductive polymer composition of claim 1~~, wherein the polymer comprises a polyolefin, a vinylhalide polymer, a vinylidene halide polymer, a perfluorinated polymer, a styrene polymer, an amide polymer, a polycarbonate, a polyester, a polyphenyleneoxide, a polyphenylene ether, a polyketone, a polyacetal, a vinyl alcohol polymer, a polyurethane, or combinations thereof.

Claim 19 (currently amended): The method of claim 33 ~~conductive polymer composition of claim 7~~, wherein the carbon black is a modified carbon black comprising the carbon black having attached at least one organic group.

Claim 20 (currently amended): The method of claim 33 ~~conductive polymer composition of claim 7~~, wherein the carbon black is treated with a binder resin.

Claim 21 (currently amended): The method of claim 33 ~~conductive polymer composition of claim 7~~, wherein the polymer comprises a polyolefin, a vinylhalide polymer, a vinylidene halide polymer, a perfluorinated polymer, a styrene polymer, an amide polymer, a polycarbonate, a polyester, a polyphenyleneoxide, a polyphenylene ether, a polyketone, a polyacetal, a vinyl alcohol polymer, a polyurethane, or a combination thereof.

Claim 22 (cancelled).

Claim 23 (cancelled).

Claim 24 (currently amended): An article comprising the conductive polymer

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composition of claim ~~34~~ 12.

Claim 25 (currently amended): An article comprising the conductive polymer composition of claim 35 13.

Claim 26 (currently amended): An article comprising the conductive polymer composition of claim 36 14.

Claim 27 (cancelled).

Claim 28 (currently amended): The article of claim ~~24~~ 22, wherein the article is a component of an automobile fuel system.

Claim 29 (currently amended): The article of claim ~~24~~ 22, wherein the article is electrostatically painted.

Claim 30 (currently amended): The article of claim ~~25~~ 23, wherein the article is a component of an automobile fuel system.

Claim 31 (cancelled).

Claim 32 (currently amended): A method of electrostatic painting an article comprising forming an article comprising the a conductive polymer composition of claim 1 and coating at least a portion of said article by electrostatic painting, wherein said conductive polymer composition comprises at least one polymer and at least one carbon black having an STSA of from about 10 to about 200 m²/g, an I₂No of from about 15 to about 250 mg/g, a tinting strength of about 130% or less, a DBPA of from about 20 to about 450 cc/100g, a CDBP of from about 20 to about 400 cc/100g, a ratio of I₂No to STSA of from about 0.4 to about 2.5, a mean particle size of from about 14 to about 250 nm, and a %volatiles of less than about 1.0%, wherein the carbon black comprises from about 5 to about 40% by weight of the conductive polymer composition, and wherein the

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conductive polymer composition has a volume resistivity of greater than about 100 ohm-cm at room temperature.

Claim 33 (currently amended): A method of electrostatic painting an article comprising forming an article comprising ~~the~~ a conductive polymer composition of claim 7 and coating at least a portion of said article by electrostatic painting, wherein said conductive polymer composition comprises at least one polymer and at least one carbon black having an STSA of from about 10 to about 200 m²/g, an I₂No of from about 15 to about 250 mg/g, a tinting strength of about 130% or less, a DBPA of from about 20 to about 450 cc/100g, a CDBP of from about 20 to about 400 cc/100g, a ratio of I₂No to STSA of from about 0.4 to about 2.5, a mean particle size of from about 14 to about 250 nm, and a %volatiles of less than about 1.0%, wherein the carbon black comprises from about 5 to about 40% by weight of the conductive polymer composition.

Claim 34 (new): A conductive polymer composition comprising at least one polymer and at least one carbon black, wherein said carbon black has an STSA of from about 46 to about 56 m²/g, an I₂No of from about 60 to about 70 mg/g, a tinting strength of about 70% or less, a DBPA of from about 137 to about 147 cc/100g, a CDBP of from about 85 to about 95 cc/100g, a ratio of I₂No to STSA of from about 1.2 to about 1.4, a mean particle size of from about 37 to about 47 nm, and a %volatiles of less than about 1.0%, wherein the carbon black is present in an amount of from about 25 to about 40% by weight of the polymer composition.

Claim 35 (new): A conductive polymer composition comprising at least one polymer and at least one carbon black, wherein said carbon black has an STSA of from about 32 to about 42 m²/g, an I₂No of from about 39 to about 49 mg/g, a tinting strength of

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about 60% or less, a DBPA of from about 112 to about 122 cc/100g, a CDBP of from about 71 to about 81 cc/100g, a ratio of I_2No to STSA of from about 1.1 to about 1.3, a mean particle size of from about 48 to about 58 nm, and a %volatiles of less than about 1.0%, wherein the carbon black is present in an amount of from about 25 to about 40% by weight of the polymer composition.

Claim 36 (new): A conductive polymer composition comprising at least one polymer and at least one carbon black, wherein said carbon black has an STSA of from about 55 to about 65 m^2/g , an I_2No of from about 63 to about 73 mg/g, a tinting strength of about 90% or less, a DBPA of from about 121 to about 131 cc/100g, a CDBP of from about 85 to about 95 cc/100g, a ratio of I_2No to STSA of from about 1.05 to about 1.25, a mean particle size of from about 26 to about 36 nm, and a %volatiles of less than about 1.0%, wherein the carbon black is present in an amount of from about 25 to about 40% by weight of the polymer composition.

Claim 37 (new): The conductive polymer composition of claim 34, wherein the conductive polymer composition has a volume resistivity of greater than about 1000 ohm-cm at room temperature.

Claim 38 (new): The conductive polymer composition of claim 35, wherein the conductive polymer composition has a volume resistivity of greater than about 1000 ohm-cm at room temperature.

Claim 39 (new): The conductive polymer composition of claim 36, wherein the conductive polymer composition has a volume resistivity of greater than about 1000 ohm-cm at room temperature.

Claim 40 (new): The conductive polymer composition of claim 34, wherein the

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carbon black is a modified carbon black comprising the carbon black having attached at least one organic group.

Claim 41 (new): The conductive polymer composition of claim 35, wherein the carbon black is a modified carbon black comprising the carbon black having attached at least one organic group.

Claim 42 (new): The conductive polymer composition of claim 36, wherein the carbon black is a modified carbon black comprising the carbon black having attached at least one organic group.

Claim 43 (new): The conductive polymer composition of claim 34, wherein the carbon black is treated with a binder resin.

Claim 44 (new): The conductive polymer composition of claim 35, wherein the carbon black is treated with a binder resin.

Claim 45 (new): The conductive polymer composition of claim 36, wherein the carbon black is treated with a binder resin.

Claim 46 (new): The conductive polymer composition of claim 34, wherein the polymer comprises a polyolefin, a vinylhalide polymer, a vinylidene halide polymer, a perfluorinated polymer, a styrene polymer, an amide polymer, a polycarbonate, a polyester, a polyphenyleneoxide, a polyphenylene ether, a polyketone, a polyacetal, a vinyl alcohol polymer, a polyurethane, or combinations thereof.

Claim 47 (new): The conductive polymer composition of claim 35, wherein the polymer comprises a polyolefin, a vinylhalide polymer, a vinylidene halide polymer, a perfluorinated polymer, a styrene polymer, an amide polymer, a polycarbonate, a polyester, a polyphenyleneoxide, a polyphenylene ether, a polyketone, a polyacetal, a vinyl alcohol

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polymer, a polyurethane, or combinations thereof.

Claim 48 (new): The conductive polymer composition of claim 36, wherein the polymer comprises a polyolefin, a vinylhalide polymer, a vinylidene halide polymer, a perfluorinated polymer, a styrene polymer, an amide polymer, a polycarbonate, a polyester, a polyphenyleneoxide, a polyphenylene ether, a polyketone, a polyacetal, a vinyl alcohol polymer, a polyurethane, or combinations thereof.

Claim 49 (new): A conductive polymer composition comprising at least one polymer and at least one carbon black, wherein said carbon black has an STSA of from about 64 to about 74 m²/g, an I₂No of from about 72 to about 82 mg/g, a tinting strength of about 90% or less, a DBPA of from about 188 to about 198 cc/100g, a CDBP of from about 101 to about 111 cc/100g, a ratio of I₂No to STSA of from about 1.05 to about 1.25, a mean particle size of from about 34 to about 44 nm, and a %volatiles of less than about 1.0%, wherein the carbon black is present in an amount from about 25 to about 40% by weight of the polymer composition.

Claim 50 (new): The conductive polymer composition of claim 49, wherein the conductive polymer composition has a volume resistivity of greater than about 1000 ohm-cm at room temperature.

Claim 51 (new): The conductive polymer composition of claim 49, wherein the carbon black is a modified carbon black comprising the carbon black having attached at least one organic group.

Claim 52 (new): The conductive polymer composition of claim 49, wherein the carbon black is treated with a binder resin.

Claim 53 (new): The conductive polymer composition of claim 49, wherein the

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polymer comprises a polyolefin, a vinylhalide polymer, a vinylidene halide polymer, a perfluorinated polymer, a styrene polymer, an amide polymer, a polycarbonate, a polyester, a polyphenyleneoxide, a polyphenylene ether, a polyketone, a polyacetal, a vinyl alcohol polymer, a polyurethane, or combinations thereof.

Claim 54 (new): An article comprising the conductive polymer composition of claim 49.

Claim 55 (new): The article of claim 54, wherein the article is a component of an automobile fuel system.

Claim 56 (new): The article of claim 54, wherein the article is electrostatically painted.

Claim 57 (new): The article of claim 25, wherein the article is electrostatically painted.

Claim 58 (new): The article of claim 26, wherein the article is a component of an automobile fuel system.

Claim 59 (new): The article of claim 26, wherein the article is electrostatically painted.